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SPE-CDNI

Functional Specification API

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PURPOSE AND SCOPE OF DOCUMENT

This document contains the functional specification of the API of the SPE-CDNI project and is valid for CCNR and AW

PROCEDURE FOR MODIFICATIONS

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VERSION CONTROL

This document is updated continuously. Major modifications on content or size will lead to new release numbers, whereas textual revisions are reflected as new level numbers. The following list shows the document's history.

Version	Date	Author	Reason of modification
V0.1	15.07.2009	Ulrich Fröhlings, Michael Rodenbücher	Initial version of API
V1.0	23.07.2009	Paul Lünebach	Release after final review by CCNR
V1.1	04.12.2009	Paul Lünebach	Project name SPE-CDNI, bibliography updated
V1.2	08.03.2010	Paul Lünebach	Definition of ANS; motivation is mandatory; type of fields account number, motivation, transaction id changed to ANS
V 1.3	22.03.2010	Paul Lünebach	',' not allowed as special character
V 1.4	12.09.2011	Erich Gormann	New request transaction type "query"

SAVING

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1 Overview and Scope

This document gives a functional description of the API of the SPE-CDNI system. The design bases on the requirements given in [contract] respectively [requirements1] and [requirements2].

2 SPE-CDNI API

The API for topup and balance correction transactions in the SPE-CDNI system is provided as web service. A WSDL file describing the web service is available on request.

There is a service providing one method "book" with two transaction types:

- type "topup" (for recharging an account)
- type "adjust" (for balance adjustments)

Security:

- For connecting the web service client and server side SSL authentication is used.
- For additional authentication the request also contains user name and password.

On processing a web service request the following checks will be performed:

- authentication is ok (SSL, user name /password, user is allowed to perform the web service call),
- account does exist and is accessible to the user,
- account is active.

In particular no limit checks are performed.

On processing the service request the AS will adjust the balance and store the web service request as transaction in the database.

Attributes of **Request**:

Data Element	Mandatory	Type	remark
transaction type	yes	AN20	only "topup", "adjust" and "query" allowed; "query" is pure API balance check transaction of type "50002"
account number	yes	ANS100	Number of the ECO-account
currency code	yes	char(3)	EUR
amount	yes	number(18)	in euro cent; For "topup" only non-negative values are allowed. For "adjust" all values (positive/negative) are allowed. Negative values will reduce the balance.

Data Element	Mandatory	Type	remark
			For "query" any amount may be entered; it must have the correct format, but will be ignored;
motivation	yes	ANS255	remark, textual explanation about this transaction.
username	yes	AN40	for authentication of request via user management
password	yes	ANS32	clear text password; for authentication of request via user management

Attributes of Response:

Data Element	Type	remark
transaction id	ANS100	generated by AS
transaction type	AN20	"topup", "adjust" or "query" (same as in request)
transaction time	date/time	local time of AS processing
National Institute ID	number(18)	CCNR numeric ID of the NI
account number	ANS100	same as in request
currency code	char(3)	same as in request
amount	number(18)	same as in request
balance	number(18)	new balance of account after processing
motivation	ANS255	same as in request
transaction result	char(3)	transaction result code (see table below)
update user	AN40	same as in request (username)

table of transaction result codes:

code	description
000	successful
001	error: user has no permission or account does not exist
002	error: account not active
999	error: general system failure

table of data type in request/response:

Type	Description
A	UTF-8 letters + Whitespace
N	Numbers with decimal digits 0-9

Type	Description
S	!"\$%&/'()*=?\@+*~#',.:_-
ANx	A+N with maximum length x.
ANSx	A+N+S with maximum length x
number(x)	integer number with at most x digits; can also be negative
date	date (without time), format "YYYY-MM-DD". Remark: The presentation of a date in the GUI may be different.
date/time	date and time; format "YYYY-MM-DD HH24:MI:SS" Remark: The presentation of a date/time value in the GUI may be different.
char(x)	A+N character sequence with exact length of x

3 Appendix

LIST OF ABBREVIATIONS/GLOSSARY

Abbreviation/Term	Description
API	Application Programming Interface
AS	Administrative System. Part of the EPS responsible for the administration of the required entities including accounts and balances.
CCNR	Central Commission for Navigation on the Rhine
EPS	Electronic Payment System
ECO-account	An account dedicated to the payment of the SWT.
EUR	Currency Euro
NI	National Institute
SSL	Secure Socket Layer
SWT	Ship Waste Treaty
WSDL	Web Service Description Language

BIBLIOGRAPHY

- [contract] contract for producing the system for the electronic payment of the charge for the disposal of waste produced in the course of navigation on inland waterways between the Central Commission for Navigation on the Rhine and Atos Worldline GmbH, 14.09.2009.
- [requirements1] FILE FOR PROSPECTIVE TENDERER UNDERTAKINGS FOR THE DELIVERY OF AN ELECTRONIC PAYMENT SYSTEM IN RESPECT OF THE 1996 STRASBOURG CONVENTION
FINAL_EN_file tenderer.doc
- [requirements2] COMPLEMENTARY FILE FOR PROSPECTIVE TENDERERS
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ATTACHMENTS

none